

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An optical disc drive which can record and/or reproduce data onto and/or from an optical disc, the optical disc drive comprising:

a three-phase spindle motor for rotating the optical disc, the spindle motor having three coils;

rotation number measuring means for measuring the rotation number of the spindle motor;

brake means for braking the spindle motor to reduce the rotation number thereof to finally stop the rotation of the spindle motor, the brake means including at least three types of brake modes, the at least three types of brake modes including a first brake mode which uses windage loss by idling of the spindle motor, a second brake mode which uses a short brake that is made by causing short circuit in between any two coils of the three coils in the spindle motor, and a third brake mode which uses a reverse rotation brake that is made by controlling the current flow so as to rotate the spindle motor in the reverse direction of the normal rotation; and

selecting means for selecting one of the at least three types of brake modes in response to the rotation number measured by the rotation number measuring means when the rotation number of the spindle motor is to be reduced,

wherein the selecting means selects the first brake mode to reduce the rotation number of the spindle motor using the windage by the idling of the spindle motor when the rotation number exceeds a first predetermined threshold value, to thereby reduce the rotation number of the spindle motor below the first threshold value, then when the rotation number of the spindle motor is reached at the first threshold value, the selecting means selects the second brake mode to carry out the short brake to thereby reduce the rotation number of the spindle motor below a second predetermined threshold value, and then when the rotation number of the spindle motor is reached at the second threshold value, the selecting means selects the third brake mode to carry out the reverse brake to thereby stop the rotation of the spindle

motor, and wherein the selection of the brake modes is operated only when the spindle motor rotates at a high rotational speed above the first threshold value.

2. (Cancelled)

3. (Cancelled)

4. (Currently Amended) The optical disc drive according to claim 1, further comprising judging means for judging whether the rotation number of the spindle motor measured by the rotation number measuring means reaches one of the threshold values a predetermined target rotation number when the brake means is applied to the spindle motor[.,.]

~~wherein the application of the brake means is completed when the judging means judges that the rotation number of the spindle motor reaches the predetermined target rotation number.~~

5. (Cancelled)

6. (Currently Amended) The optical disc drive according to claim 1, wherein the spindle motor includes a magnet rotor, the optical disc drive further comprising position detecting means for detecting the position of the magnet rotor in the spindle motor, the position detecting means including a plurality of Hall elements disposed on the magnet rotor so as to be spaced at certain intervals and the rotation number measuring means measures the rotation number of the spindle motor based on the pulse number outputted from the plurality of Hall elements.

7. (Cancelled)

8. (Cancelled)

9. (Currently Amended) The optical disc drive according to claim 1, further comprising a driver for driving the spindle motor, the driver including a plurality of switching elements and switching means for switching between on and off of each of the plurality of

switching elements wherein the selection of the brake modes is carried out selecting means is operated by switching these switching elements by means of the switching means.

10. (Original) The optical disc drive according to claim 9, wherein each of the plurality of switching elements is constituted from an NPN type transistor.

11. (Cancelled)

12. (Currently Amended) A brake control method of an optical disc drive, the optical disc drive being capable of recording and/or reproducing data onto and/or from an optical disc by rotating the optical disc by means of a three phase spindle motor, and the optical disc drive including brake means for braking the spindle motor to reduce the rotation number thereof to finally stop the rotation of the spindle motor, the brake means including at least three types of brake modes including a first brake mode which uses windage loss by idling of the spindle motor, a second brake mode which uses a short brake that is made by causing a short circuit between any two coils of the three coils in the spindle motor, and a third brake mode which uses a reverse rotation brake that is made by controlling the current flow so as to rotate the spindle motor in a reverse direction of rotation, the method comprising the steps of:

- a) measuring the rotation number of the spindle motor;
- b) judging whether the measured selecting the first brake mode to reduce the rotation number of the spindle motor using the windage by the idling of the spindle motor when the rotation number exceeds a predetermined first threshold value, to thereby reduce the rotation number of the spindle motor below the first threshold value; reaches a predetermined target rotation number or not;
- c) judging which rotational speed range the measured rotation number of the spindle motor is among a high speed range, a medium speed range and a low speed range, in the case where the rotation number of the spindle motor does not reach the predetermined target rotation number; selecting the second brake mode to carry out the short brake when the rotation number of the spindle motor is reached at the first threshold value, to thereby reduce the rotation number of the spindle motor below a predetermined second threshold value, and
- d) based on the judged speed range, selecting one of at least three types of brake modes; selecting the third brake mode to carry out the reverse brake when the rotation number of the

spindle motor is reached at the second threshold value, to thereby stop the rotation of the spindle motor,

wherein the above selection of the brake modes is operated when the spindle motor rotates at a rotational speed above the first threshold value.

e) —— braking the spindle motor to reduce the rotation number thereof by the selected brake mode; and

f) —— repeating the steps a) through e) until the measured rotation number of the spindle motor reaches the predetermined target rotation number.

13. (Cancelled)

14. (Cancelled)